AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (canceled).

2. (currently amended): A nitride semiconductor product according to claim 31 or 32~~1~~, wherein the nitride semiconductor is represented by formula $In_xAl_yGa_{1-x-y}N$ ($0 \leq x < 1$, $0 \leq y < 1$, $0 \leq x + y < 1$).

3. (canceled).

4. (canceled).

5. (canceled).

6. (currently amended): A nitride semiconductor product according to claim 31 or 32~~1~~, wherein the difference between the growth temperature of said barrier sublayer C and the growth temperature of said well layer is 50°C or more.

7. (canceled).

8. (currently amended): A nitride semiconductor product according to claim 31~~3~~, wherein the difference between the growth temperature of said barrier sublayer C and the growth temperature of said barrier sublayer A is 50°C or more.

9. (currently amended): A nitride semiconductor product according to claim 31 or 32~~1~~, wherein the growth temperature of said well layer falls within a range of 600°C to 1,000°C.

10. (previously presented): A nitride semiconductor product according to claim 2, wherein said well layer comprises GaInN.

11. (previously presented): A nitride semiconductor product according to claim 2, wherein said barrier layer comprises GaInN or GaN.

12. (currently amended): A nitride semiconductor product according to claim 31 or ~~32~~, wherein at least one layer selected from said well layer and said barrier layer contains an n-type dopant.

13. (previously presented): A nitride semiconductor product according to claim 12, wherein said n-type dopant is Si.

14. (previously presented): A nitride semiconductor product according to claim 12, wherein said n-type dopant is Ge.

15. (previously presented): A nitride semiconductor product according to claim 12, wherein a concentration of said n-type dopant in the layer containing said n-type dopant varies periodically.

16. (canceled).

17. (previously presented): A nitride semiconductor product according to claim 15, wherein a layer with a higher concentration of said n-type dopant is not thicker than a layer with a lower concentration of said n-type dopant, in the layer containing said n-type dopant.

18. (previously presented): A nitride semiconductor product according to claim 12, wherein the layer containing said n-type dopant has an n-type dopant concentration of 1×10^{16} to 5×10^{19} cm^{-3}.

19. (currently amended): A nitride semiconductor light-emitting device comprising a nitride semiconductor product according to claim 31 or ~~32~~, a negative electrode provided on an n-type layer of said nitride semiconductor product and a positive electrode provided on a p-type layer of said nitride semiconductor product.

20. (currently amended): A light-emitting diode comprising a nitride semiconductor product according to claim 31 or ~~32~~.

21. (currently amended): A laser device comprising a nitride semiconductor product according to claim 31 or ~~32~~.

22. (currently amended): A lamp comprising a nitride semiconductor product according to claim 31 or ~~32~~.

23. (previously presented): A method for producing a nitride semiconductor product, said method comprising sequentially stacking on a substrate a nitride semiconductor n-type layer, a nitride semiconductor light-emitting layer of a quantum well structure, and a nitride semiconductor p-type layer, thereby producing a nitride semiconductor product having a quantum well structure, wherein said method comprises

growing a well layer;

subsequently, elevating a growth temperature;

growing a barrier layer of the quantum well structure at the elevated temperature, which is higher than a growth temperature of the well layer by 50°C or more;

subsequently, lowering the growth temperature again by 50°C or more; and

further growing the barrier layer at the lowered temperature.

24. (previously presented): A method for producing a nitride semiconductor product according to claim 23, which further comprises growing said barrier layer before elevating the growth temperature.

25. (previously presented): A method for producing a nitride semiconductor product according to claim 23, wherein growing of said barrier layer is performed in at least one step of elevating the growth temperature and lowering the growth temperature.

26. (previously presented): A method for producing a nitride semiconductor product according to claim 23, wherein said barrier layer contains an n-type dopant.

27. (currently amended): A method for producing a nitride semiconductor light-emitting device, said method comprising

a step of producing a nitride semiconductor product comprising an n-type layer, a light-emitting layer and a p-type layer by the method for producing a nitride semiconductor product according to claim 23,

a step of removing a portion of a light-emitting layer and a p-type layer of thea nitride semiconductor product ~~according to claim 1~~, thereby exposing an n-type layer,

a step of providing a negative electrode on the exposed n-type layer, and

a step of providing a positive electrode on the p-type layer.

28. (currently amended): A method for producing a light-emitting diode, comprising a step of providing a lead to a nitride semiconductor light-emitting device produced by the method according to claim 27~~19~~.

29. (currently amended): A method for producing a laser device, comprising a step of providing a lead to a nitride semiconductor light-emitting device produced by the method according to claim 27~~19~~.

30. (currently amended): A method for producing a lamp, comprising a step of providing a cover containing a phosphor to a nitride semiconductor light-emitting device produced by the method according to claim 27~~19~~.

31. (new): A nitride semiconductor product comprising an n-type layer, a light-emitting layer, and a p-type layer which are formed of a nitride semiconductor and sequentially stacked on a substrate in the above order,

said light-emitting layer having a quantum well structure in which a well layer is sandwiched by barrier layers having band gaps wider than the band gap of the well layer,

wherein said barrier layers individually comprise a barrier sublayer C which has been grown at a temperature higher than a growth temperature of said well layer, and barrier sublayers A, B and E which have been grown at a temperature lower than a growth temperature of said barrier sublayer C, said barrier sublayers A, B, C, and E are stacked, in this order, said barrier sublayer A is grown by maintaining a temperature lower than a growth temperature of said barrier sublayer C, said barrier sublayer B is grown during elevating a temperature from the growth temperature of said barrier sublayer A to the growth temperature of said barrier sublayer C, the difference between the growth temperature of said barrier sublayer C and the growth temperature of said barrier sublayer E is 50°C or more, said barrier sublayer E is grown by maintaining the lowered growth temperature after lowering the temperature.

32. (new): A nitride semiconductor product comprising an n-type layer, a light-emitting layer, and a p-type layer which are formed of a nitride semiconductor and sequentially stacked on a substrate in the above order,

said light-emitting layer having a quantum well structure in which a well layer is sandwiched by barrier layers having band gaps wider than the band gap of the well layer,

wherein said barrier layers individually comprise a barrier sublayer C which has been grown at a temperature higher than a growth temperature of said well layer, and barrier sublayers D and E which have been grown at a temperature lower than a growth temperature of said barrier sublayer C, said barrier sublayers C, D and E are stacked, in this order, the difference between the growth temperature of said barrier sublayer C and the growth temperature of said barrier sublayer E is 50°C or more, said barrier sublayer D is grown during lowering the temperature from the growth temperature of said barrier sublayer C to the growth temperature of said barrier sublayer E, and said barrier sublayer E is grown by maintaining the lowered growth temperature after lowering the temperature.